#### **ENVIRONMENTAL CHEMISTS**

# Analysis For Total Metals By EPA Method 200.8

Client ID: Date Received: CB331707 05/21/12 05/24/12

Date Extracted: Date Analyzed: Matrix:

05/29/12 Water ug/L (ppb) Client: Project: Landau Associates

1198001.010.011, F&BI 205301 205301-01

Lab ID: Data File:

205301-01.026

Instrument: Operator:

ICPMS1 AP

Internal Standard: Germanium

% Recovery: 98

Lower Limit: 60 Upper Limit: 125

 ${\bf Concentration}$ 

Analyte:

Units:

ug/L (ppb)

Copper Zinc 86.6 899

### **ENVIRONMENTAL CHEMISTS**

## Analysis For Total Metals By EPA Method 200.8

Client ID: Date Received: Date Extracted:

Date Analyzed:

Matrix:

Units:

CB331707 05/21/12

05/24/12 05/29/12 Water ug/L (ppb) Client: Project:

Landau Associates

1198001.010.011, F&BI 205301 205301-01

Lab ID: Data File: Instrument: ICPMS1

205301-01.026

AP

Operator:

Lower

Upper Limit: Limit: 60 125

Internal Standard: Germanium

% Recovery:

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Concentration

ug/L (ppb)

Copper Zinc

Analyte:

86.6 899

#### **ENVIRONMENTAL CHEMISTS**

# Analysis For Total Metals By EPA Method 200.8

Client ID: Date Received: Method Blank Not Applicable 05/24/12

Date Extracted: Date Analyzed: Matrix:

05/29/12 Water ug/L (ppb) Client: Project: Lab ID:

Landau Associates

1198001.010.011, F&BI 205301 I2-338 mb

Data File: Instrument: ICPMS1

I2-338 mb.011

Operator: AP

Internal Standard: Germanium

% Recovery: 112

Lower Limit: 60

Upper Limit: 125

Concentration

Analyte:

Units:

ug/L (ppb)

Copper Zinc

<1 <1

#### **ENVIRONMENTAL CHEMISTS**

## Analysis For Total Metals By EPA Method 200.8

Client ID: Date Received: Method Blank Not Applicable 05/24/12

Date Extracted: Date Analyzed: Matrix:

Internal Standard:

05/29/12 Water ug/L (ppb) Client: Project:

Landau Associates

1198001.010.011, F&BI 205301 I2-338 mb

Lab ID: Data File:

I2-338 mb.011 ICPMS1

Instrument: Operator:

AP

% Recovery:

112

Lower Limit: 60

Upper Limit: 125

Concentration

Analyte:

Germanium

Units:

ug/L (ppb)

Copper Zinc

<1 <1

## ENVIRONMENTAL CHEMISTS

Date of Report: 06/08/12 Date Received: 05/21/12

Project: 1198001.010.011 PO M08921, F&BI 205301

## QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 205300-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	ug/L (ppb)	20	2.83	93	92	52-134	1
Zinc	ug/L (ppb)	50	1,730	95 b	129 b	51-142	30 b

Laboratory Code: Laboratory Control Sample

	Percent									
Analyte	Reporting Units	Spike Level	Recovery LCS	Acceptance Criteria						
Copper	ug/L (ppb)	20	84	81-120						
Zinc	ug/L (ppb)	50	84	82-120						

#### **ENVIRONMENTAL CHEMISTS**

Date of Report: 06/08/12 Date Received: 05/21/12

Project: 1198001.010.011 PO M08921, F&BI 205301

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<u>Analyte</u>	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
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Copper	ug/L (ppb)	20	84	81-120						
Zinc	ug/L (ppb)	50	84	82-120						

#### **ENVIRONMENTAL CHEMISTS**

## Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probability.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb Analyte present in the blank and the sample.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht Analysis performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- $\operatorname{pr}$  The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

#### **ENVIRONMENTAL CHEMISTS**

## Data Qualifiers & Definitions

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- A1 More than one compound of similar molecule structure was identified with equal probability.
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21	05301	Seattle/Edmonds (425) 778-0907
0		<sup>™</sup> Tacoma (253) 926-2493
	LANDAU	☐ <b>Spolæne</b> (509) 327-9737
	ASSOCIATES	☐ Portland (503) 542-1080

# Please Bill Alaskan Copper MLXE 05-21-1 P.O. MØ8921

05-21	ATO		
	Date	21	12
	Page (	_of_	

Chain-of-Custody Record

Project Name Alaskan Copper	Proie	ect No. 1 198	001.010	.011		<u>Z</u> ,		Te	sting	Para	meter	Tallian Saila III.is
Project Location/Event 2Q12 S Sampler's Name Rosemany Project Contact Project	WSamp	ing			/.		//	//		//	///	✓
Sampler's Name Rosemany	Trimme	_0			/1	7 /		/ /	/ /	//,	//	
Project Contact R 14 10 10 10 10	- Alaskau Ga	e De k	triffing		V	//	//		/	//	//	( /2)
Send Results To Terry Thatsen,	Gary Huits.	y, Joe Ka	mar	3	1/	//	/	//	//	//	//,	X0// · · · · · · · · · · · · · · · · · ·
	Date Time		No. of Containers	2	/	//			//	//	//	Observations/Comments
	212 1:00		1 >	<b>1</b>	$\coprod$	Ĺ						
		-		-			-	-	10 m	-		aliquot from clear portion
	1			+	$\vdash$	+	1		+			X NWTPH-Dx - run acid wash/silica gel cleanup
						<u> </u>	1_					run samples standardized to
									_	terr because		product
				_			-		+	-	<u> </u>	Analyze for EPH if no specific product identified
												VOC/BTEX/VPH (soll):
												non-preserved preserved w/methanol
												preserved w/sodium bisulfate
		<u>                                     </u>					<u> </u>					Freeze upon receipt
			Ĭ.									Dissolved metal water samples field filtered
		<del>                                     </del>		+-1	-	_	$\vdash$		-			Other
<u></u>				2	2 mg/	es re	مند	4.0	Z	5 00		
						Ca IE	CEIVE	Uai				
Special Shipment/Handling -				8		į.	1		- 1		Matha	
or Storage Requirements	ب	STELL III.	125 TeV	N							Metho Shipm	ent deliver to lab
Relinquished by	Received m	and			Rel	linquis	hed I	by				Received by
Roceman Trimme	Signature	phan	25.V	Z-110354	Sigr	nature						Signature
Printed Name Landon Hissociates Company	Printed Nam	<u> </u>			Printed Name						11	Printed Name
	Company	( :		_	Соп	npany			KE ASIII			Company
Date 5/21/12 Time 3:30	Date	1112	me <u>3:30</u> [	21	Date	e			_ Time	e		Date Time

Seattle/Edmonds (425) 778-0907

☐ Tacoma (253) 926-2493

LANDAU Spokane (509) 327-9737 ASSOCIATES Portland (503) 542-1080

Please Bill Alaskan Copper P.O. MØ8921

05-21-				AT2
	Date	5	21	12
	Page	<u> </u>	_of	

**Chain-of-Custody Record** 

Project Name Alaskan Copper  Project I continue Front 2012 St	Project	t No. 191	6001.01	0.0		1	//	/	Testir	ng Pa	arame	ters	Turnaround Time
Project Location/Event 2Q12 5V Sampler's Name Rosemany To Project Contact Devry Thompson - M Send Results To Tevry Thompson, Go	imme	0		5	/		//	//		//	///	/ ,	Accelerated:
Project Contact Derry Manyson - A	laskau Gya	y De k	ituitous	<u>)</u>	Je de la constant de	7 /	/	/ ,	/ /		//		
Send Results To Terry The Son, Go	ry Huitsin	, Joe K	almar			//	//	//	//	/ /	//	( )	$\langle n' \rangle$
Sample I.D. Date		Matrix	No. of Containers	10	//	//	/ )	//	//	//		<b>/\</b>	Observations/Comments
CB331707 5/4	12 1:00	1/2.0	1	X					1			Ol	X Allow water samples to settle, collect
		1:			1			-					aliquot from clear portion  X NWTPH-Dx - run acid wash/silica gel cleanup
					_	-		+			_		
					+	+	_	+					run samples standardized to product
					-			-	_				Analyze for EPH if no specific product identified
	1				Ť			+	+	$\vdash \uparrow$	-		VOC/BTEX/VPH (soil):
			- 2502.04		_				1_				non-preserved preserved w/methanol
					+	1	+	+	_	H		-	preserved w/sodium bisulfate Freeze upon receipt
		5			+	+	+	+	+	+	1		Dissolved metal water samples field filtered
													Other
				-	_	- 1 <sub>00</sub>	_		-	9-7			
	1-20				San	ples	rece	ived	a	5	°¢		
					į.								
Special Shipment/Handling or Storage Requirements	_										Me St	ethoc nipme	deliver to lab
Relinquished by	Received to	and				Relinq	uishe	ed by					Received by
Signature Nosemany Trimmer	Signature T N N U N	phan	<b>S</b>		_	Signatu							Signature
Printed Name Landon Hesociates Company	Printed Name  L B  Company					Printed			1				Printed Name
Date 5/21/12 Time 3:30	Date 521	lia .	Time 3:30	Sow		Compa	•		т	ime			Company  Date Time

#### **ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S.

3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 e-mail: fbi@isomedia.com

June 8, 2012

Joe Kalmer, Project Manager Landau Associates 130 2<sup>nd</sup> Ave. S. Edmonds, WA 98020

Dear Mr. Kalmer:

Included are the results from the testing of material submitted on May 21, 2012 from the 1198001.010.011 PO M08921, F&BI 205301 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Matthew Langston Project Manager

Enclosures

c: Gerald Thompson, Gary Huitsing, Rosemary Trimmer NAA0608R.DOC

#### **ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 e-mail: fbi@isomedia.com

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